

WHAT IS CLAIMED IS:

Fig 4A
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1. A cochlear implant system, comprising:
(66)
a signal generator that generates a second signal causing pseudospontaneous activity;
(modulated signal producing a stimulation pulse) 106/11 Ins 9-31
a signal processor that combines a first signal (70,72) (Col 9, Ins 49-50) & C11 Ins 45- C12 In 25)
second signal to output a combined signal; and
(20)
a stimulation unit coupled to the signal processor that receives the combined signal from the signal processor.

2. The system according to claim 1, wherein the stimulation unit is an electrode array (36) unit that is coupled to an auditory nerve. CID; In 25-27

Sub E17
3. The system according to claim 2, wherein the first signal is applied to a first subset of electrodes (12 Ins 22-25) in the electrode array and the second signal (modulated power sig) is applied to a second subset of electrodes in the electrode array (C11 Ins 24-31) (de modulated address words)

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B2
4. The system according to claim 1, wherein the second signal is a high rate pulse train (C11 Ins 24-31)

Sub B2

5. The system according to claim 4, wherein the high rate pulse train has a frequency above 3 kilohertz and a constant amplitude. C12 Ins 1-6

Sub E1

6. The system according to claim 1, wherein the second signal includes rapid state transitions and a frequency greater than approximately 3 kilohertz, C11 Ins 9-12

7. The system according to claim 1, wherein the signal processor determines the combined signal by summing the first and second signals, wherein address control word - rep input signal & power signal are modulated & transmitted via a single carrier signal. 60

8. ^{FB} The system according to claim 1, further comprising a microphone that generates the first signal, wherein the microphone is coupled to the signal processor. (70) (60)

9. The system according to claim 1, wherein the signal processor further comprises a combining circuit that logically processes the first and second signals, wherein the combining circuit ANDs the first and second signals. (60) 89 010882 In

specifically not AND

Sub B3 103

10. The system according to claim 1, wherein a microphone, the signal processor and the signal generator are positioned external to an ear, wherein the stimulation unit is coupled by a wire to the signal processor, and wherein the stimulation unit is coupled to an auditory nerve via a cochlea. 70 (60) 66 no (45,30)

uses inductive coupling have -32- C9 Ins 47-58

Sub EI
11. A method for generating a driving signal for an auditory implant,
comprising:

receiving a first signal; ^{via (70)}

generating a second signal that causes pseudospontaneous activity in an ^{via (60)}
auditory nerve; and ^{C11 124-31}

combining the first and second signals ^{fig 4} to generate the driving signal.

12. The method of claim 11, further comprising applying the combined signal ^{C10, 125-27}
to the auditory nerve and the first signal is received from a signal processor. ⁽⁶⁰⁾

13. The method according to claim 11, wherein the first signal represents at least ⁽⁷⁰⁾
one of speech, emergency signals and control information, and wherein the second signal ^{C11 129-34}
is a constant amplitude high rate pulse train with a frequency above 3 kilohertz.

112? 14. The method according to claim 12, wherein an inner ear implant performs
the steps of receiving through applying.

Sub EI 103 15. The method according to claim 11, wherein the combining step performs
at least one of summing and multiplying the first and second signals.

16. An auditory prosthesis for receiving an auditory signal representing sound and supplying an electrical signal which is adapted to stimulate the auditory nerve of a person, comprising:

sub B5
5 pseudospontaneous generation means for generating a pseudospontaneous driving signal;

transducer means adapted to receive the auditory signal and the pseudospontaneous driving signal for transforming the auditory signal and the pseudospontaneous driving signal to an electrical input signals; and

stimulation means, operatively coupled to the electrical input signals generated by the transducer means, for stimulating the auditory nerve at defined locations within the cochlea.

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17. The auditory prosthesis of claim 16, wherein the transducer means further performs at least one summing of the auditory signal and the pseudospontaneous driving signal and multiplying the auditory signal and the pseudospontaneous driving signal.

sub B6
18. The auditory prosthesis of claim 16, wherein the pseudospontaneous driving signal is a high rate pulse train. C11 1004-31